

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P313833

Luminaire Tested: **24FCZ2-30-UNV-L83050-CP187-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P313833
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L83050-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2750.0 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

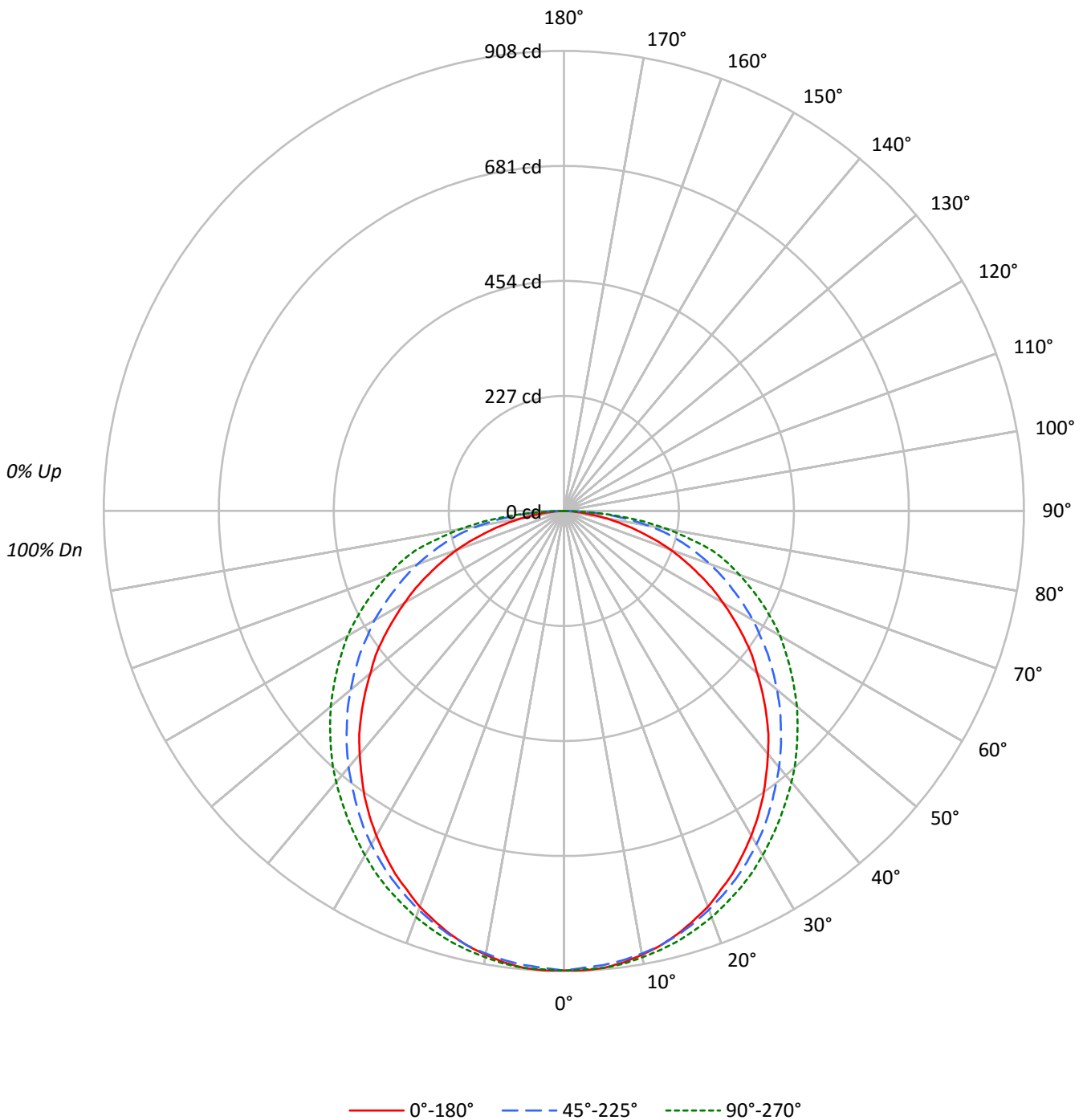
Input Watts (W): 24.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1220	1220	1220
5°	1222	1215	1222
10°	1215	1212	1222
15°	1205	1207	1223
20°	1190	1199	1222
25°	1172	1191	1220
30°	1150	1181	1219
35°	1127	1169	1220
40°	1101	1160	1228
45°	1075	1153	1238
50°	1043	1150	1257
55°	1017	1152	1282
60°	977	1161	1326
65°	933	1174	1374
70°	883	1210	1450
75°	788	1262	1584
80°	672	1336	1619
85°	479	1325	1550



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	3.1
10°-20°	245.4	8.9
20°-30°	370.7	13.5
30°-40°	446.8	16.2
40°-50°	469.0	17.1
50°-60°	438.8	16.0
60°-70°	362.4	13.2
70°-80°	246.9	9.0
80°-90°	84.2	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	701.9	25.5
0°-40°	1148.7	41.8
0°-60°	2056.5	74.8
0°-90°	2750.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2750.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	907	907	907	907	907	
5°	905	904	900	905	905	86
15°	865	866	867	876	878	244
25°	789	793	802	818	822	363
35°	686	693	712	735	743	429
45°	565	577	606	639	650	436
55°	433	451	491	531	546	387
65°	293	318	369	415	432	291
75°	152	186	243	288	305	162
85°	31	61	86	97	100	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	906.9	906.9	906.9	906.9	906.9
2.5°	907.8	906.9	902.4	906.9	906.0
5°	905.1	904.2	899.6	905.1	905.1
7.5°	898.7	898.7	894.2	900.5	901.5
10°	889.6	889.6	886.9	894.2	894.2
12.5°	878.6	878.6	878.6	885.9	886.9
15°	865.0	865.9	866.8	875.9	877.7
17.5°	848.5	850.4	853.1	864.0	865.9
20°	831.2	833.0	837.6	850.4	853.1
22.5°	809.3	813.9	820.2	834.8	837.6
25°	789.2	792.9	802.0	817.5	822.1
27.5°	764.6	770.1	781.9	798.4	804.7
30°	740.0	745.4	760.0	779.2	784.7
32.5°	713.5	721.7	737.2	757.3	763.7
35°	686.1	693.4	711.7	735.4	742.7
37.5°	656.0	666.1	686.1	711.7	720.8
40°	626.8	637.8	660.6	687.9	698.9
42.5°	597.6	608.6	634.1	665.1	676.1
45°	564.8	576.6	605.8	638.7	650.5
47.5°	531.9	546.5	578.5	613.1	625.9
50°	498.2	514.6	549.3	585.8	600.4
52.5°	468.1	483.6	520.1	559.3	573.0
55°	433.4	450.7	490.9	531.0	546.5
57.5°	397.8	417.0	459.8	503.6	519.2
60°	363.1	384.1	431.6	475.4	492.7
62.5°	329.4	350.4	399.6	445.3	462.6
65°	292.9	317.5	368.6	415.1	431.6
67.5°	258.2	284.7	338.5	384.1	400.5
70°	224.5	250.0	307.5	352.2	368.6
72.5°	188.0	217.2	274.6	321.2	338.5
75°	151.5	186.1	242.7	288.3	304.7
77.5°	117.7	153.3	209.9	247.3	255.5
80°	86.7	123.2	172.4	198.9	208.9
82.5°	55.7	92.2	131.4	150.5	158.8
85°	31.0	61.1	85.8	96.7	100.4
87.5°	12.8	26.5	34.7	39.2	39.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)